

34. (Newly Added) The dryer of claim 32 wherein said perimeter to area ratio is greater than 2.5 and less than 7 inch⁻¹.

35. (Newly Added) The dryer of claim 32 wherein said perimeter to area ratio is greater than 5 inch⁻¹ and less than 7 inch⁻¹.

REMARKS

The title was considered not descriptive and has been amended. FIG. 14 has been amended to show a thermistor surge suppressor in series with the motor, as described in the as-filed specification. The specification has been amended in conjunction with the drawing change. No new matter has been added. The abstract of the invention has been amended to delete the term "An exemplary embodiment of the invention is a dryer that," as requested by the Examiner.

Claims 1-4 have been amended to place the claim terminology in conformance with the units disclosed in the specification.

Claim 14 was rejected under 35 U.S.C. § 112, second paragraph and has been amended in a non-narrowing manner to address the item raised by the Examiner.

Claims 1-9, 14 and 27 were rejected under 35 U.S.C. § 102(b) as being anticipated by Iyer. Applicants respectfully traverse this rejection for the following reasons.

In applying Iyer, the Examiner construed discharge nozzle 19 to correspond to the claimed air outlet. Discharge nozzle 19, however, has a closed end and utilizes a number of apertures 21 to output the airstream. Thus, in Iyer, the apertures 21 output the airstream. The apertures in Iyer lack the claimed perimeter to area ratio. Accordingly, Iyer cannot anticipate claim 1.

In addition, claim 6 recites that the air outlet has an air outlet length greater than an air outlet largest dimension and claim 7 recites that the air outlet is circular and has a length of about 3 to about 5 times larger than a diameter of the air outlet. The discharge apertures 21 in Iyer lack these features.

With respect to claim 27, the Examiner considers housing 9 of Iyer to correspond to the claimed channel. An exemplary embodiment of claim 27 is shown in Applicants' Figure 12 in which airstream from outlet 16 entrains air through channels 25 over heaters 24. The use of two heaters and one airstream entraining air drawn over a further heater is not disclosed in Iyer.

For the above reasons, claims 1-9, 14 and 27 are patentable over Iyer.

Claim 28 was rejected under 35 U.S.C. § 102(b) based on WO83/02753, JP4-367369 and WO94/23611. These references all use an outer airstream that includes cool air and thus lack "the heated outer airstream containing only air from the heated airstream" as recited in claim 28. Accordingly, claim 28 is patentable.

Claims 1-9, 13, 14 and 27 were rejected under 35 U.S.C. § 103 as being unpatentable over Gilbertson in view of Sheridan. Applicants respectfully traverse this rejection for the following reasons.

The Examiner acknowledges that Gilbertson fails to teach the claimed perimeter to area ratio and relies on Sheridan for teaching adjusting the width of a nozzle to match the work area. Neither Gilbertson nor Sheridan teaches the claimed perimeter to area ratio. The Examiner speculates that one of ordinary skill in the art would select a perimeter to area ratio greater than 2.5 as claimed. Even the Examiner's example of an

air outlet for a single tooth on the order of tenths of an inch ($2/0.1 \text{ inch} = 20 \text{ inch}^{-1}$) exceeds the upper limit recited in claims 3 and 4.

The proper standard for an obviousness rejection is whether one of ordinary skill would have been motivated to modify the prior art, not whether the art could be modified. The only teaching of a perimeter to area ratio of greater than 2.5 comes from Applicants' specification. Thus, claim 1 is patentable over Gilbertson in view of Sheridan.

Claims 6 and 7 recite features related to the length of the air outlet not taught by Gilbertson in view of Sheridan.

With respect to claim 27, the Examiner has not provided any detailed analysis of Gilbertson. An exemplary embodiment of claim 27 is shown in Applicants' Figure 12 in which airstream from outlet 16 entrains air through channels 25 over heaters 24. The use of two heaters and one airstream entraining air drawn over a further heater is not disclosed by Gilbertson in view of Sheridan.

For the above reasons, claims 1-9, 14 and 27 are patentable over by Gilbertson in view of Sheridan.

Claims 10 and 13 were rejected under 35 U.S.C. § 103 as being unpatentable over Iyer in view of Tomaro. Claim 10 is dependent on claim 1 and is patentable over Iyer for at least the reasons advanced above with respect to claim 1. In addition, Tomaro fails to teach an airstream having a velocity no less than 18,000 linear feet per minute. Although Tomaro disclose rpm, Tomaro fails to disclose factors that affect airstream velocity such as fan size, vane configuration, etc. Simply because a fan rotates at 19,000 rpm does not mean that it inherently provides an airstream having a velocity no less than 18,000 linear

feet per minute. Thus, the combination of Iyer and Tomaro fails to teach the features of claim 10.

Claims 11 and 12 were rejected under 35 U.S.C. § 103 as being unpatentable over Iyer in view of Hersh. Claims 11 and 12 are dependent on claim 1 and are patentable for at least the reasons advanced above with respect to claim 1.

Claims 15 and 16 were rejected under 35 U.S.C. § 103 as being unpatentable over Iyer in view of Bergeron. Claims 15 and 16 are dependent on claim 1 and are patentable for at least the reasons advanced above with respect to claim 1.

Claim 17 was rejected under 35 U.S.C. § 103 as being unpatentable over Iyer in view of Bergeron and JP5-91755. Claim 17 recites that the surge suppressor is a thermistor. None of Iyer, Bergeron or JP5-91755 teaches this feature.

Claims 10 and 13 were rejected under 35 U.S.C. § 103 as being unpatentable over Gilbertson in view of Sheridan and Tomara. Claim 10 is dependent on claim 1 and is patentable for at least the reasons advanced above with respect to claim 1. In addition, Tomaro fails to teach an airstream having a velocity no less than 18,000 linear feet per minute. Although Tomaro disclose rpm, Tomaro fails to disclose factors that affect airstream velocity such as fan size, vane configuration, etc. Simply because a fan rotates at 19,000 rpm does not mean that it inherently provides an airstream having a velocity no less than 18,000 linear feet per minute. Thus, the combination of Gilbertson in view of Sheridan and Tomaro fails to teach the features of claim 10.

Claims 11 and 12 were rejected under 35 U.S.C. § 103 as being unpatentable over Gilbertson in view of Sheridan and Hersh. Claims 11 and 12 are dependent on claim 1 and are patentable for at least the reasons advanced above with respect to claim 1.

Claims 15 and 16 were rejected under 35 U.S.C. § 103 as being unpatentable over Gilbertson in view of Sheridan and Bergeron. Claims 15 and 16 are dependent on claim 1 and are patentable for at least the reasons advanced above with respect to claim 1.

Claim 17 was rejected under 35 U.S.C. § 103 as being unpatentable over Gilbertson in view of Sheridan and Bergeron and JP5-91755. Claim 17 recites that the surge suppressor is a thermistor. None of Gilbertson, Sheridan, Bergeron or JP5-91755 teaches this feature.

In view of the foregoing amendments and remarks, Applicants submit that this application is in condition for allowance. Early notification to this effect is requested.

If there are any fees due in connection with this response, please charge such fees to deposit account 06-1130 maintained by Applicants' attorneys.

Respectfully submitted,

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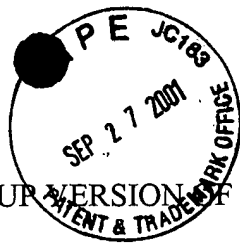
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MARKED-UP VERSION OF AMENDMENTS IN THIS RESPONSE

IN THE TITLE

DRYER PROVIDING FASTER DRYING

IN THE SPECIFICATION

This paragraph begins on line 20 of page 20:

One way of significantly increasing the lifetime of carbon brushes in frequent starting use is to use a current limiter in the current supply. This can be done with an electronic circuit that limits the current, or one that progressively increases the current in a fraction of a second. A preferable and less expensive way is to place a thermistor or surge suppressor in the current supply to the motor, as indicated at 44 in FIG. 14. This thermistor is a resistor that has a resistance that decreases as it is heated by the current flowing through it. The thermal time constant can be such as but not limited to a fraction of a second so that the start of the motor is not noticeably slowed, but the starting current and brush wear is reduced and the motor lifetime is increased. The cost of the control electronics is significantly reduced.

This paragraph begins on line 1 of page 34:

~~An exemplary embodiment of the invention is a~~ A dryer includes ~~that uses~~ a high speed blower (12) producing high velocity air, a heater (14) and an optimized air outlet (16) to generate both optimal force and temperature at the user's hands. The air outlet is sized and shaped to maintain direction of air flow, and to entrain a sufficient amount of air so as to increase the force of the airstream while not entraining too much air in the core region of the airstream which otherwise would significantly reduce the airstream impact force and temperature. These result in reduced drying time and in-process comfort and comfort afterwards.

IN THE CLAIMS

1. (Amended) A dryer comprising:

a blower for generating an airstream,

a heater for increasing a temperature of the airstream, and

an air outlet for outputting the airstream, said air outlet having a perimeter to area ratio greater than 2.5 inch^{-1} .

2. (Amended) The dryer of claim 1 wherein said perimeter to area ratio is greater than 5 inch^{-1} .

3. (Amended) The dryer of claim 1 wherein said perimeter to area ratio is greater than 2.5 inch^{-1} and less than 7 inch^{-1} .

4. (Amended) The dryer of claim 1 wherein said perimeter to area ratio is greater than 5 inch^{-1} and less than 7 inch^{-1} .

14. (Amended) The dryer of claim 1 wherein said heater is located after downstream from said blower.

17. (Amended) The dryer of claim 16 further comprising a surge suppressor in series with the brush motor to reduce starting current surge and to extend brush life, wherein said surge suppressor is a thermistor.

27. (Amended) A dryer comprising:

- a blower for generating an airstream,
- a heater for increasing a temperature of the airstream, and
- a tubular air outlet for outputting the airstream,
- at least one channel in fluid communication with said air outlet,
- a further heater positioned in said channel,
- said airstream entraining air through said channel and past said heater.

28. (Amended) A dryer comprising:

- a blower for generating an airstream,
- a heater for increasing a temperature of the airstream to define a heated airstream,

and

- an inner air outlet for outputting the heated airstream,
- an outer air outlet surrounding the inner air outlet;
- said inner air outlet including a plurality of perforations to direct a portion of the heated airstream to said outer air outlet to generate a heated outer airstream, the heated outer airstream containing only air from the heated airstream;
- said outer airstream being entrained by said airstream.